DEFENSE INFORMATION INFRASTRUCTURE (DII)
COMMON OPERATING ENVIRONMENT (COE)
SHARED DATA ENVIRONMENT (SHADE)

SYSTEM ADMINISTRATOR'S MANUAL (SAM)

FOR THE

DATABASE ADMINISTRATION RUNTIME TOOLS (DBAdmR) SOFTWARE SEGMENT

Version 1.1.0.0
for
Solaris 2.5.1 & HPUX 10.20

1 JULY 1997

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FOREWORD

This document will be reviewed and updated by Defense Information Systems Agency and interested commands as required to maintain currency. Comments and recommendations for change may be forwarded for review and incorporation to:

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1. Scope

1.1 Identification

This System Administrator's Manual (SAM) is prepared for Version 1.1.0.0 of the Database Administration Runtime Tools (DBAdmR) Software Segment for use with DII COE compliant systems running on Solaris 2.5.1 or HPUX 10.20.

1.2 System Overview

The Defense Information Infrastructure (DII) Common Operating Environment (COE) provides tools, procedures, and specifications for the development of systems and software applications in a modular manner to improve the interoperability of DOD information systems.

The Shared Data Environment (SHADE) works within and as a part of the DII COE to extend its modularity and interoperability concepts to database management systems, the databases they manage, and the information contained in those databases.

The Database Administration Runtime Tools (DBAdmR) Software Segment provides the Database Administrator (DBA) with a set of Graphical User Interface (GUI) tools that will manage physical storage, start and stop the Database Management System (DBMS) server, modify the DBA password, display the error logs, and extend datastorage.

The DBAdmR segment also provides DII COE database segment developers with a basic set of Application Programming Interfaces (API) that will allow them to start and stop the DBMS server and manage physical storage.

The DBAdmR segment supplies the following DBA tools:

- Identify Storage - Identifies disk devices on a COE Database Server and allows the DBA to allocate and deallocate physical storage on those disk devices.
- Server Control - Starts or stops the DBMS server.
- Set Password - Prompts for and sets the DBA password.
- Error Log - Displays the error logs of the other 3 tools.
- Extend Datastore - Allocate additional physical storage to an existing data store.

The DBAdmR segment also supplies the following APIs:

- DBAStartServer - Start a DBMS Server, if not running.
- DBAStopServer - Stop a DBMS Server, if running.
- DBACreateDS - Create a data store on a COE Database Server and allocate physical storage to the data store.
- DBAExtendDS - Allocate additional physical storage to an existing data store.
- DBADropDS - Remove a data store from a COE Database Server and deallocate the physical storage assigned to that data store.

The APIs are discussed in detail in the DBAdmR Application Programmer's Interface.

1.3 Document Overview

This document provides the Database Administrator with information necessary to use the DBAdmR runtime tools.

This document is based on Department of Defense (DOD) Military Standard 498. It is divided into the following sections, which are primarily based on the pull-down menu headers (or icons) and the options they contain.

Section 2 lists all the documents used as references during the preparation of this document and segment.

Section 3 addresses the **Server Control** tool.

Section 4 addresses the **Set Password** tool.

Section 5 addresses the **Identify Storage** tool.

Section 6 addresses the **Error Log** tool.

Section 7 addresses the **Extend Storage** tool.

Section 8 defines the acronyms and abbreviations relevant to this document.

1.4 Style Conventions Used

These conventions were followed to compose the technical portions of this document:

- Examples and words that require emphasis are printed in *italics.*
- For clarity, only those steps which require sequential operations have been assigned alpha character (a. b. c...)
- Button names, window names, field names, etc. are printed in all capital letters. For example: "Click on START SERVER..." "Select the HELP option..."
- Keyboard keys are enclosed in square brackets. For example: "Use the [RETURN] key to view the ...."
- Items and commands that are to be entered (typed) into fields or at the command line are preceded and followed by quotation marks (" "). The quotation marks *are not* part of the entry and should not be entered because the command will not be recognized or will be misinterpreted by the DBMS or the Operating System.

2.

Referenced Documents

The following documents were used as reference during the preparation of this manual, or are referenced herein.

2.1 Government Documents

2.1.1 Standards

Military Standard 498 (MIL-STD-498)

2.1.2 Other Publications

Functional Design Document for the Shared Data Server Development and Integration Standard Database Administration Installation support services, Release 1.0, 27 June 1996.

DBAdmR Application Programmer's Interface, Version 1.1.0.0, 1 JULY 1997.

3.

Server Control Tool

Accessing the **Database Control** pull-down and selecting **Server Control** or double clicking on the **Server Control** icon (found under the **DBAdm APPS** folder) allows a Database Administrator to start the **Server Control** tool.

3.1 Starting and Stopping the DBMS Server

The **Server Control** tool allows the Database Administrator to start and stop the DBMS server instance on the COE Database Server. The initial display will reflect the DBMS server installed and its current state of either up or down.

3.1.1 Starting the DBMS Server

If the DBMS server is not running (Figure 3-1), the administrator simply clicks on the **Start Server** button and the DBMS server will be started.

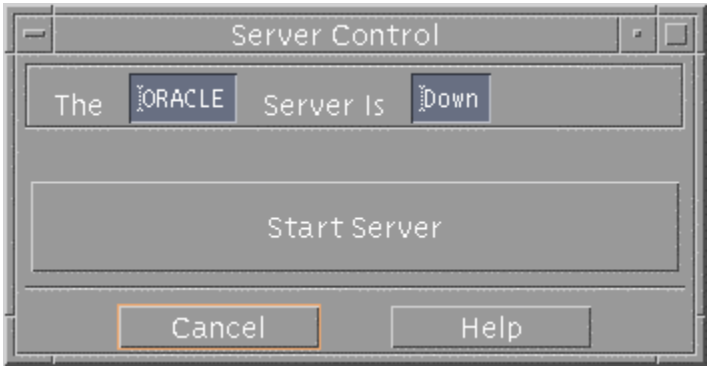

Figure 3-1. Server Control (database down)

Clicking on the **Cancel** button will halt the tool and not affect the current state of the DBMS server.

Any problems starting or stopping the DBMS server may be further examined via the Error Log tool (Section 6.1).

3.1.2 Stopping the DBMS Server

If the DBMS server is running (Figure 3-2), the **Server Control** tool will allow the administrator to shutdown the DBMS server in the appropriate manner (normal, abort, immediate).

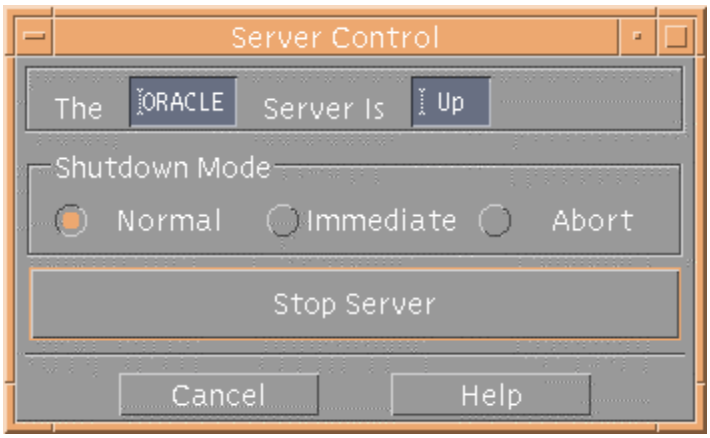

Figure 3-2. Server Control (database up)

Select the appropriate radio button from the **Shutdown Mode**, then click on the **Stop Server** button to shutdown this instance of the DBMS server.

NOTE: The ORACLE DBMS allows shutdown modes of Normal, Immediate, and Abort, while Sybase permits only Normal and Immediate. Selecting Abort with a database instance of Sybase will perform the same action as an Immediate shutdown.

4.

Set Password Tool

Accessing the **Password** pull-down and selecting **Set Password** or double clicking on the **Set Password** icon (found under the **DBAdm APPS** folder) allows a Database Administrator to start the **Set Password** tool.

4.1 Modifying the DBA Password

The **Set Password** tool will be used to modify the DBA password for an instance of the DBMS on the server. The display (Figure 4-1) will prompt for the initial DBA password and allow the Database Administrator to enter a new password.

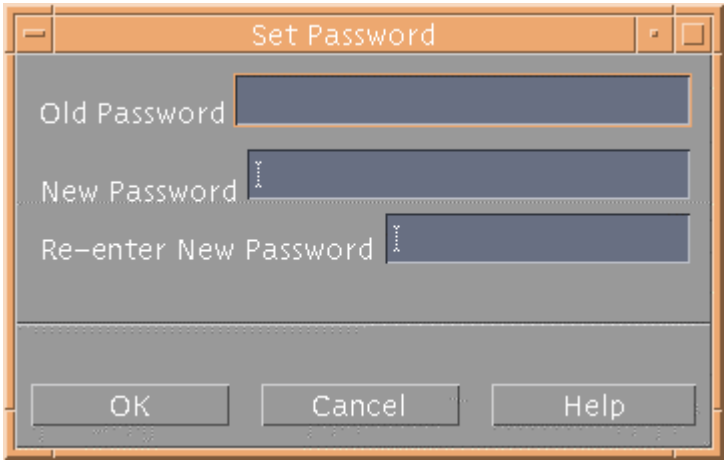

Figure 4-1. Set Password

The passwords will not be displayed as they are typed (asterisks will replace each character entered). A verification procedure requires the administrator to correctly re-enter the new password. After verification, the Database Administrator must click on the **OK** button for the **Set Password** service to change the DBA password for the database server.

Clicking on the **Cancel** button will halt the tool and not affect the DBA password.

Any problems saving off the password will be reflected in the error log and can be examined via the Error Log tool (Section 6.1).

5.

Identify Storage Tool

Accessing the **Database Storage** pull-down and selecting **Identify Storage** or double clicking on the **Identify Storage** icon (found under the **DBAdm APPS** folder) allows a Database Administrator to start the **Identify Storage** tool.

5.1 Managing Disk Devices and Storage

The **Identify Storage** tool allows the Database Administrator to select disk(s) that will be used to store DBMS files and allocate a user-definable amount of disk space for future database segments.

5.1.1 Identifying Disk Devices

The initial display (Figure 5-1) will show the current disks on the system and information about them. This display provides the logical and physical device names, current disk usage (as reported by the UNIX Operating System), and an indication as to whether or not the disk has been reserved for use for database storage.

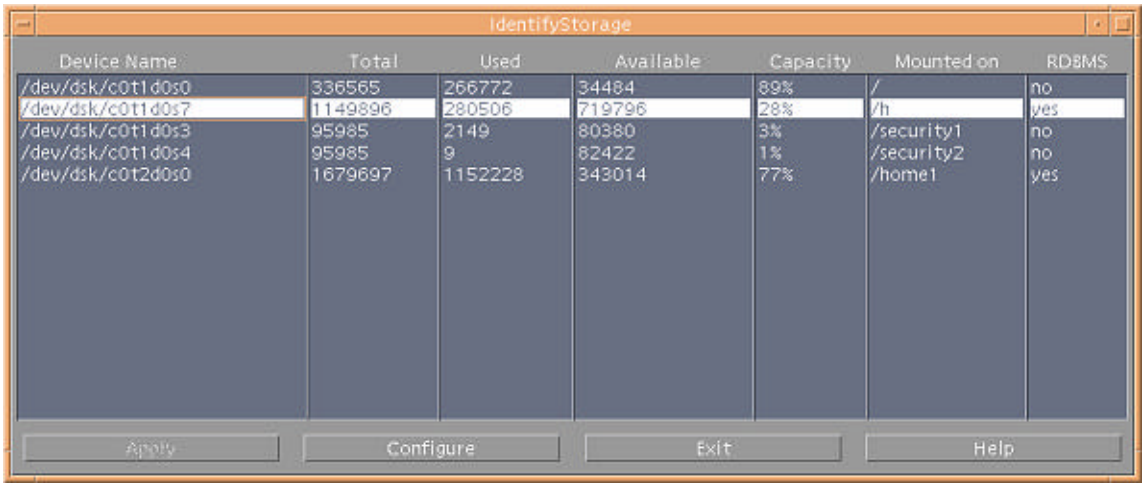

Figure 5-1. Identify Storage (disk selection)

The Database Administrator may begin the process to identify a database disk by selecting the disk from the list and clicking on the **Configure** button.

NOTE: The first time the **Identify Storage** tool is brought up on a COE Database Server it will take a moment to determine the available disks that may be used for database storage.

5.1.2 Allocating Storage

Once the Database Administrator has selected the disk that is to be used for database storage a GUI is displayed (Figure 5-2) to determine the amount of the disk to be set aside to be used for DBMS files. This size field is displayed in kilobytes and will default to 90 percent of the available space on the disk.

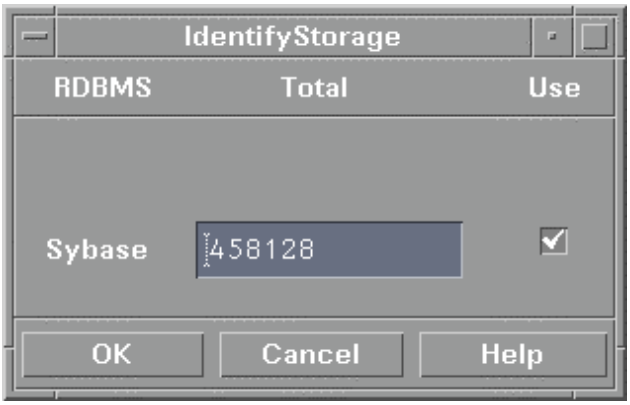

Figure 5-2. Identify Storage (storage size)

The amount of disk storage used is at the discretion of the Database Administrator and can be set to what is deemed appropriate. Once the Database Administrator has completed configuration for this device, check the **Use** box **on** and click the **OK** button which returns the Database Administrator to the main window. The Database Administrator must then click the **Apply** button which will save the configuration for this one device. At this point the **DBMS** field shall read **yes** if the disk has been successfully identified.

NOTE: Caution must be exercised when installing database segments. The **Identify Storage** tool does just that, it identifies disk devices for possible use by database segments. In the case of an Oracle database server, it does ***not*** reserve the disk space, so it is possible that other software segments or applications could use up storage that had been counted on for database segments.

The Database Administrator may repeat this procedure for as many devices as need to be identified for DBMS use.

NOTE: For an Oracle implementation, do not expect to see the percentage of disk usage drop dramatically when a disk has been identified. Only when the actual database segments are installed shall a Database Administrator see the percentage of free disk space start to drop.

5.1.3 De-allocating Storage

To de-allocate disk storage repeat the above steps but set the **USE** check box **off** and click on the **OK** button. This will clean up internal data files and will no longer consider the specified disk available for data storage.

NOTE: Any attempt to de-allocate disk storage while there are still database(s) installed will result in a warning, and will not let the Database Administrator continue. At this point, logon as sysadmin to remove the database segment(s), then return to dbadmin to continue the operation.

Clicking on the **Cancel** button will halt the tool and not affect the current database disk set-up.

6.

Error Log Tool

Accessing the **System** pull-down and selecting **Error Log** or double clicking on the **Error Log** icon (found under the **DBAdm APPS** folder) allows a Database Administrator to start the **Error Log** tool.

6.1 Viewing Error Logs

The **Error Log** tool provides a GUI for Database Administrators to view recent error messages or audit trail information that may have been saved to disk by a DBAdmR process during execution.

When the **Error Log** tool (Figure 6-1) is activated, it will display all the error logs that have been produced by DBAdmR tools up to this point.

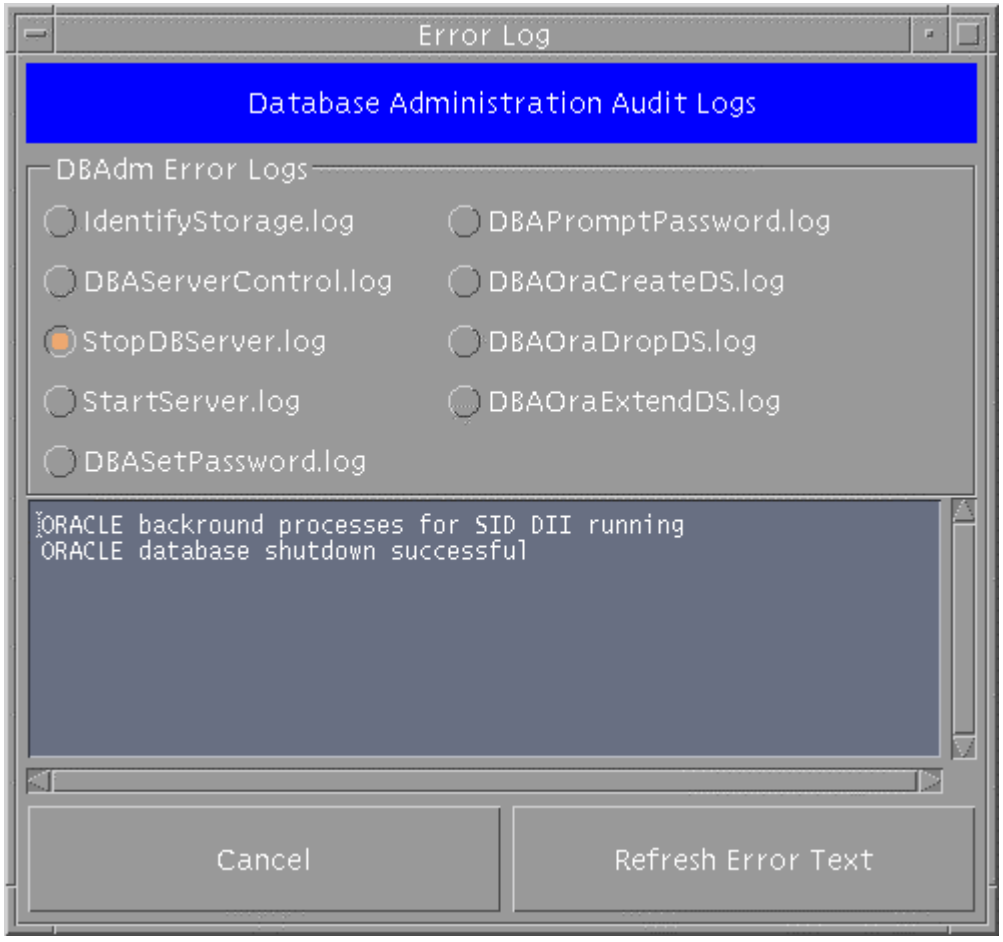

Figure 6-1 Error Log

To view a particular error log make your selection from the **Error Log** radio box and the log entries will be displayed in the scrollable text field.

If the Database Administrators wishes to leave the **Error Log** tool running while the various DBAdmR tools are executed, simply click on the **Refresh Error Text** button to get the latest log displayed.

NOTE: Each time a DBAdmR function is executed, a new log file is generated.

7. Extend Datastore

Accessing the **System** pull-down and selecting **tablespace/datastore** or double clicking on the **Extend Datastore** icon (found under the **DBAdm APPS** folder) allows a Database Administrator to start the **Extend Datastore** tool.

7.1 Extending the Datastore

The **Extend Datastore** tool provides a GUI for Database Administrators to allocate additional physical storage to an existing datastore.

When the **Extend Datastore** tool (Figure 7-1) is activated, it will display all tablespace or datastores that have been allocated by the currently installed up to this point. The user may select any one of the datastores and activate the **EXTEND** button. This will pop-up a simple window which prompts for the amount of storage that the user wishes to extend the datastore by. The datastore must be extended by a minimum of 1 Meg.

8.

Notes

8.1 Acronyms

Acronym	Definition
API	Application Programming Interface
COE	Common Operating Environment
COTS	Commercial Off-the-Shelf System
DBA	Database Administrator
DBAdmR	Database Administration Runtime Tools Software Segment
DBMS	Database Management System
DII	Defense Information Infrastructure
DOD	Department of Defense
GCCS	Global Command and Control System
GOTS	Government Off-the-Shelf System
GUI	Graphical Database Administrator Interface
SHADE	Shared Data Environment
SRS	Software Requirements Specification